



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

No sense of place

Citation for published version:

Cupples, J 2020, 'No sense of place: Geoscientisation and the epistemic erasure of geography', *New Zealand Geographer*, vol. 76, no. 1, pp. 3-13. <https://doi.org/10.1111/nzg.12231>

Digital Object Identifier (DOI):

[10.1111/nzg.12231](https://doi.org/10.1111/nzg.12231)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

New Zealand Geographer

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



This is the pre-print version of the following article published in the *New Zealand Geographer* in 2019 (online early) and 2020 (issue). The full reference is:

Cupples J (2020) No sense of place: Geoscientisation and the epistemic erasure of geography. *New Zealand Geographer* 76(1) <https://doi.org/10.1111/nzg.12231>

If you wish to cite this paper and don't have access to the *New Zealand Geographer* through your institution, please contact the author Julie Cupples at julie.cupples@ed.ac.uk for a pdf of the post-print version

No sense of place: Geoscientization and the epistemic erasure of geography

Julie Cupples
University of Edinburgh

Abstract

This article explores the question of geoscientization and its consequences for the discipline of geography. By geoscientization, I am referring to the ways in which geography, under conditions of top-down managerial neoliberalization, has been subject to a range of administrative (re)locations in colleges and faculties of science and engineering and to forced mergers with programmes and departments in the physical sciences, most notably geology, earth sciences and environmental sciences/studies. It argues for a greater understanding of the forms of epistemic erasure and other negative consequences that geoscientization engenders, especially for critical human geographers who find themselves in such administrative arrangements.

KEYWORDS discipline of geography, Eurocentrism, geoscientization, neoliberal university, sexism

Introduction

One of the most difficult and frustrating aspects of my academic career as a human geographer, both in New Zealand (1998-2012) and in the UK (2013-date), has been the persistent need to negotiate and resist geoscientization. As all readers of this journal know, geography is a broad, contested and indeed promiscuous discipline that crosses the arts, humanities, social sciences and physical sciences (Richards 2008; Johnston 2008; Blunt 2008) and it exists (or not) today in a range of administrative units in universities around the world. In the past few years, in the UK, New Zealand, Australia and elsewhere, we've seen the demise of the standalone department of geography as these have been merged into new configurations – sometimes in faculties or colleges of humanities and social sciences but more frequently in faculties or colleges of science and engineering. These mergers often make it hard, as Hall et al. (2015) write, to locate the Department of Geography in the neoliberal university.

By *geoscientization*, I am referring to the ways in which geography, under conditions of top-down managerial neoliberalization, has been subject to a range of administrative (re)locations in colleges and faculties of science and engineering and to forced mergers with programmes and departments in the physical sciences, most notably geology, earth sciences and environmental sciences/studies. Sometimes, as is the case in the universities of Sydney, Aberdeen and Edinburgh, geography ends up in a reified configuration known as “geosciences”. I’ve been unable to find a definition of geosciences that explicitly includes human geography and most schools of geoscience, especially in the US, do not include any human geography. For example, the American Geosciences Institute provides the following definition from which the contemporary humanities and social sciences that are the basis of human geography are completely absent.

Geoscience is the study of the Earth - its oceans, atmosphere, rivers and lakes, ice sheets and glaciers, soils, its complex surface, rocky interior, and metallic core. This includes many aspects of how living things, including humans, interact with the Earth. Geoscience has many tools and practices of its own but is intimately linked with the biological, chemical, and physical sciences. Geoscience investigates the past, measures the present, and models the future behavior of our planet. But it also involves the study of other planets, asteroids, and solar systems, both to better understand the Earth and to expand our knowledge of the universe.¹

I have noticed it is largely geologists and geophysicists that are comfortable with the descriptor geosciences and indeed geoscience and geology are often conflated and used interchangeably) (see for example Mayer et al. 2017).

While many geographers have written about the changing fate of the discipline of geography in the neoliberalizing academy (Harvey et al. 2002; Gibson 2007; Sidaway and Johnston 2007; Fincher 2012; Finlayson 2015; Hall et al. 2015; Maddrell et al. 2015; Wainwright et al. 2014; Lahiri-Dutt 2019), there has been a lack of sustained attention to the institutional effects of geoscientization and its implications in particular for critical human geographers. This article is based in part on my own experiences and on the *many*

conversations I have had on this matter with human geographers in the UK, New Zealand and Australia over the past few years. Some of the insights from these conversations have found their way into this article, but for ethical reasons I do not mention people or their institutions by name and trust they will support my reasons for anonymous inclusion. Where institutions are named, this is because the information I include is published, is easily accessible public knowledge, or is based on my own experience. The article focuses on some of the material consequences of geoscientization and the forms of epistemic erasure it engenders. Indeed, one senior human geographer in New Zealand referred to geography as having been “brutalized everywhere” by the mergers to which it has been subjected and by its location in schools that might work for geomorphologists or glaciologists but that really don’t make sense for human geographers. While brutalization might be too strong a word, especially in comparison to the really brutal consequences of neoliberalism outside of the academy (Pinochet’s Chile, the 1980s UK miners’ strike, the murder of environmental defenders in Honduras and Colombia), there is nonetheless much suffering in the contemporary academy as a result of top-down driven forms of restructuring. One geographer told me that the restructuring of geography had been so traumatic that colleagues were routinely bursting into tears at work. As neoliberalism becomes more authoritarian the world over, mutating into what Hendrikse (2018) calls neo-illiberalism, the institutions of constitutional liberalism, including universities, are prone to sustained attack. Consequently, this paper seeks to understand what I see as the unnecessary “brutalization” of geography in this context and reflects on how things might be otherwise. It considers how we might both resist geoscientization and, in the interests of our own mental health and our research programmes, learn to *live with* it.²

Before I start, it is necessary to identify three important caveats. The first is that I do not write this piece in defence of traditional disciplines. Indeed, I have always been attracted

to the radical interdisciplinarity or even postdisciplinarity of cultural studies (see Hall 1990) and I became a geographer because of the intellectual dynamism of the “cultural turn” of the 1980s and 1990s when geography was transformed through engagement with cultural studies (Cupples and Glynn 2017). My own teaching and research are informed by scholarship in the Modernity/Coloniality/Decoloniality (MCD) paradigm which moves across history, philosophy, cultural studies, political economy, feminist studies, Latin American studies, and Black and Indigenous studies. Importantly, *all* human geographers engage with disciplines and studies outside of our discipline (sociology, anthropology, political science, English literature, development studies, urban studies, environmental studies, queer studies, media studies, science and technology studies and many others). Human geographers do not have to engage with geology/geoscience in order to do interdisciplinary work.

The second caveat is that I do not wish to suggest that the shifting fortunes of geography are a new or recent phenomenon, so this is *not* a paper about geography’s decline from a better place in the wake of geoscientization. As scholars on the history of the discipline have documented, geography has always had to struggle for its identity (see Sullivan 2011; Cresswell 2013; Johnston and Sidaway 2015). Indeed, for Sullivan (2011:2), the history of the discipline “can be viewed as one long performative struggle.” In part, this struggle is rooted in geography’s colonial origins. How geography should relate to and engage with Empire and colonialism continues to matter enormously. But it exceeds these questions. As Sidaway and Johnston (2007: 59) write, when geography was established as a discipline in the UK, departments “struggled to maintain academic credibility relative to the sciences and the longer-established humanities”. As this suggests, the intellectual and epistemological tensions that result from geography’s position between the physical sciences and the humanities are both long-term and ongoing. This ambiguity has also made geography an easy target and many geography departments have been attacked and closed

over the past six or seven decades. No history of the discipline is complete without reference to the US situation and the elimination of geography at Harvard University and a number of other Ivy League and prestigious universities after the Second World War, including Pennsylvania (1963), Yale (1967) and Columbia (1986) (Smith 1987; Cohen 1988). For Cohen (1988), it was Harvard geography's lack of autonomy as a result of its co-location with geology and its concomitant structural weaknesses that were key contributors to its institutional vulnerability. In the 20th century, these closures and other concerns resulted in parts of the discipline trying to be more like science which resulted in an emphasis on quantification and positivist approaches (Cresswell 2013). Structural weaknesses remain in many places. For example, in 2007, Gibson described Australian geography as vulnerable and since that article was published, it has continued to be subject to quite dramatic institutional restructurings. More recently, geographers have written about the devastating and traumatic closures of geography at Brunel and Strathclyde in the UK and at ANU in Australia (Chan 2011; Wainwright et al. 2014; Lahiri-Dutt 2019). Along with the legacies of colonialism, contemporary critical human geography (defined as non-positivist geography that engages with queer, feminist, Marxist, anarchist, poststructuralist, postcolonial or decolonial perspectives) must also continue to negotiate the legacies of the quantitative revolution. Like colonialism, these continue to reassert themselves in new ways today through various forms of instrumental GIS and big data approaches rooted in positivism (Cresswell 2014) or in the exhortation to do policy-relevant work³.

Finally, my third caveat is that this paper should not be read as opposition to those who work or are trying to work across a natural sciences-social sciences-humanities interface. I acknowledge for example the important work in political ecology, environmental management and the Anthropocene that works across these divisions as well as the productive collaborations in New Zealand between physical scientists and Māori

communities. As Lave et al. (2013) document, there is some scholarship that combines physical geography with critical social and cultural theory, although epistemological and methodological barriers make scholarship at this interface very difficult to do well.

As this article asserts, critical human geography does survive in geoscientized arrangements and it can to some extent resist the intensification of geoscientization. But survival and resistance notwithstanding, geoscientization does however function as a spatial ordering strategy that can limit the ability of critical human geographers to achieve their goals, result in multiple forms of epistemic erasure and make our working conditions emotionally exhausting. Hence the need to manage this process carefully and collectively. While an in-depth systematic study of the long-term effects of geoscientization is still to be done, and each case has its own geographically specific characteristics, my own experiences and that of others suggest there are a few issues in common that need to be discussed. If we do not do so, not only do we prevent many of our human geography colleagues from reaching their potential, but we may also fail to provide the academy as a whole with the knowledge and information it needs to understand and redress this situation. Geoscientization proceeds in part because of a lack of understanding of contemporary human geography on the part of those who promote it.

Biographical note

In New Zealand, I worked in a small department of geography (only seven human geographers) at the University of Canterbury (UC). In terms of administration, it used to be located in and contribute to two faculties – a Faculty of Arts and a Faculty of Science. It offered both BA and BSc degrees and the programme managed a fairly even balance in staff and student numbers between human and physical geography. After a process of neoliberal restructuring in 2004, the Department of Geography was located in the College of Science, while the rest of UC's social sciences and humanities departments were restructured into

larger schools in a College of Arts. The two faculties (Arts and Science) continued to exist but were weakened as bottom-up faculty governance was largely replaced by top-down managerial decision-making. In geography, the numbers of BA students relative to BSc students fell and new resources and emphases were increasingly diverted towards quantitative work, especially GIS and spatial science. Thanks to STEM dominance in the New Zealand university, geography's location in the College of Science did protect it from the devastating attacks on the College of Arts between 2007 and 2013, attacks that intensified painfully after the earthquakes (see Johnston et al. 2012; Matthews 2012). During this period, we also managed to successfully fight off a proposed merger with geology. It seems that this merger was merely postponed (by about a decade) as geography at Canterbury is now slated to become part of a School of Earth and Environment, and "geography" will *not* appear in the name of the school.

At the present time, I currently work in the very large School of GeoSciences, similarly located in a College of Science and Engineering at the University of Edinburgh (UoE). Here geography sits alongside several physical science disciplines, including geology, geophysics, ecology, environmental sciences, meteorology and oceanography; fields with which many human geographers have limited intellectual affinity or engagement, although there is some collaboration over environmental resource management and hazards and disasters. The School of GeoSciences at UoE was also created through a neoliberal restructuring process in 2002 when the Department of Geography ceased to exist. This occurred despite the department being one of the top-performing geography departments nationally and internationally. Furthermore, it had been an intellectual home to some of geography's most well-known feminist and critical scholars, including Liz Bondi who founded the journal *Gender, Place and Culture* (Domosh and Bondi 2014). There is credible evidence too that geoscientization had a negative impact on the retention of some of these

scholars. Geography survives as one of three research institutes in the school (Institute of Geography and the Lived Environment) and is taught through a very large Geography Degree Programme via an overlapping arts (MA Hons) and a science (BSc Hons) route. This programme admits around 130 undergraduate students a year for a four-year degree, and despite our location in the College of Science and Engineering, the majority of these students enrol on the MA and are focused on the study of human geography. While geography is administratively part of GeoSciences, the Institute of Geography is located in its own building separate from the rest of the school and close to the other humanities and social science units in the university's central area in Edinburgh's Old Town. In contrast, most of the geologists, ecologists and geophysicists are located on the science campus (King's Buildings), about a 40-minute walk from the central area. For the past few years, there were aspirations for a new single GeoSciences building on the science campus. The proposed building was viewed by a number of us as an attempt to complete the scientization process in material form and erase geography as a social sciences and humanities subject at UoE. Fortunately, the school remains spread over the two sites and will remain so for the foreseeable future. Nonetheless, like the Brunel geographers after the closure of their department (see Wainwright et al. 2014), some of us feel "out of place" in the School of GeoSciences.

Geoscientization as a spatial ordering strategy

This section considers how geoscientization operates in practice and some of its effects. Physical scientists, social scientists and humanities scholars write, publish, supervise students, recruit colleagues and fund their research in quite different ways and neoliberal metrics in the academy reward physical scientists who in general get and need more research funding, publish more papers and get more citations. For example, a leading humanities

scholar would look very poor on Scopus compared with a mediocre physical scientist and a publishing success for human geographers tends to be a paper in the *Annals* or *Transactions*, not one in *Nature*. These differences are not however adequately recognized in geoscientized departments and schools, meaning that we must contend with a series of institutional policies and practices that are designed by and for physical scientists. These policies and practices are not unique to the institutions in which I have worked and are frequently experienced by geographers elsewhere. Given that most human geographers work within a critical social sciences or humanities framework, these policies are often perceived to be highly punitive. They leave us fighting for modes of working and being that exist elsewhere in the academy, but are devalued, invisibilized and marginalized in a geoscientized unit.

It is however absolutely crucial to acknowledge that geoscientization emerges within and is inseparable from the process of neoliberalization that has led to the rapid deterioration of working conditions in universities all around the world, but *especially* in the UK, Australia and New Zealand. Many academics, especially those outside of STEM fields but many within it too, feel jaded by institutional restructuring, managerialism, shifting goalposts, job insecurity, and mechanisms of audit and surveillance. As Tim Ingold (2011:xi) writes, the contemporary academic environment in which we work “is profoundly hostile to the task of being alive” as we find ourselves “[c]rushed by an avalanche of mission statements, strategic plans, audit reports and review exercises” and publications are “measured by rating and impact rather than by what they might have contributed to human understanding.” It is also the case that the contemporary academy is a site of epistemic racism and sexism (Grosfoguel 2013) that is profoundly hostile and discriminatory towards women, indigenous peoples and people of colour (Kuokkanen 2007; Tuhiwai Smith 2012; Ahmed 2012). I recognize that standalone geography departments are also sites of racism, sexism, and intellectual tensions, but I believe that these tensions and oppressions are intensified in conditions of geoscientific

hegemony. For these reasons, geoscientization should not be viewed as a process that operates in parallel to other processes, as geoscientization, neoliberalization, sexism and Eurocentrism work to constitute one another. Geoscientization can exacerbate existing oppressions and make confronting other kinds of oppressions even more difficult. But its most profound consequence is the way it leads to quite serious forms of epistemic and disciplinary erasure.

Epistemic erasure

One of the most obvious ways in which geography is subject to a kind of epistemic erasure is the elimination of “geography” from the name of the new geoscientized unit (see Finlayson 2015 on this phenomenon in the Australian context). The school in which I work could easily be called the School of Geography and Geosciences or even the School of Geohumanities⁴. The former president of the Association of American Geographers (AAG), Julie Winkler (2014), tackled this issue in a newsletter article, given the frequent name changes that geography programmes have undergone. She draws on discussions on the matter that have been held within the AAG Council and concludes that the renaming of departments has consequences and so must be approached with great care. She aptly captures the potentially damaging impact of a “geosciences” branding.

A name is more than the sum of its parts and needs to be selected carefully, particularly as it can benefit or disadvantage some subgroups. Often departments, especially merged departments composed of several disciplines, seek integrative names such as *Geosciences* or *Environmental Sciences*. However, these particular examples of departmental names can disadvantage the humanities and social science components of geography, such as critical human geography, especially if university administrators and others on campus perceive the department as focusing primarily on

the physical environment rather than also on the built environment or the social and political environment. One departmental chair shared with their regional councillor that an interpretation of “environment” as only the physical environment can skew the local perception of geography with potentially negative consequences on hiring and teaching decisions.

Here, Winkler captures the everyday consequences for human geographers in geoscientized units. We are frequently perceived as not belonging to the humanities and social sciences and we receive many hundreds of irrelevant emails about physical science events and opportunities, while sometimes not hearing about or being excluded from events or opportunities that do pertain to our field. I was once told by a research administrator in the College of Arts, Humanities and Social Sciences that I couldn’t be the principal investigator on a grant application to the Arts and Humanities Research Council (AHRC) because I was in GeoSciences and the grant I was applying for required “a strong humanities focus.”

Of course, emails can be quickly deleted and I am perfectly capable of asserting my humanities credentials and applying for the grants for which I am eligible, but I concur with Winkler (2014) who goes on to note that “[k]eeping “geography” as part of the departmental name can have a number of advantages, as it portrays a more holistic view of geography.”

The human geographers in one recently created UK merger between geography and geology managed to prevent their new school being called School of Geosciences, the term preferred by university managers, by insisting that it be should be called the School of Geohumanities. In the end, geography remains in the name of this particular school. While the geosciences label was deemed acceptable to managers, the geohumanities one was clearly deemed a step too far. STEM dominance means that while human geographers can be scientized, geologists cannot be humanitized.

The effects of geoscientization go much further than our being perceived as working on the physical environment, but often result in our being subjected to physical science working cultures and physical science metrics. It is important to outline just how different these working cultures can be. For example, physical scientists usually work in teams and are frequently included as authors on publications that others, especially PhD students or research assistants, have written or to which they have only made a very small contribution. Their inclusion is based on their providing some data, getting the funding, running the lab or simply being the supervisor. Critical human geographers generally do not add their names to papers they have not authored or co-authored themselves. If we have supervised the project and provided support and feedback, but not done any of the fieldwork, the analysis, the library research or the writing, we end up in the acknowledgements. Physical scientists also tend to write fewer books, especially monographs, that can take years to complete, fewer book chapters and shorter articles. In geoscientized units, there is a tendency to treat book chapters as an inferior and less valuable kind of publication, despite the intellectual value and longevity of good anthologies. Consequently, physical scientists are able to publish a lot more than critical human geographers and they publish mostly in journals. These differences may have a negative bearing on promotion prospects for human geographers, especially if they must submit to internal and external promotion committees made up of physical scientists. Physical scientists on such committees often do not understand why the human geographer has spent three years writing a monograph or why they only publish one or two papers a year when their physical science colleagues have published many more. They sometimes treat the sole-authored article with suspicion, as if it suggests that we are difficult to work with. Either way, it frequently looks like we're underperforming, and I think with some justification that it can be harder for critical human geographers to get promoted when

the promotion committees are full of physical scientists that lack the ability to properly evaluate performance in the humanities and critical social sciences.

One of the most insidious mechanisms to have emerged from the neoliberal university is the idea of grant income targets. These are, as Berg, Huijbens and Larson (2016) write, a key contributor to high levels of stress and anxiety among academics and can sometimes even result in suicide as in the recent tragic case of Stefan Grimm at Imperial College (see Parr 2014). In the current conjuncture, the securing of external funding is often celebrated and rewarded more readily than the publications, theory-building or ideas that result from the funding. And failing to apply for and/or secure grants is often seen as a kind of underperformance that can also act as a barrier to career progression or put an academic under intolerable work stress. Physical science research is often more expensive than critical social science and humanities research and many critical human geographers can be productive scholars with relatively small amounts of funding. This difference is indeed reflected in the amounts of funding available from the UK Research Councils. The Natural Environment Research Council (NERC) that funds physical scientists has an annual budget of £99 million, almost four times that of the Arts and Humanities Research Council (£26 million) (Times Higher Education 2018). In GeoSciences at Edinburgh, the grant income target is euphemistically described as a “research adjustment”, it is expressed as a percentage of salary and this percentage increases with seniority. The targets are based on inequitable principles as they are the same for AHRC applicants as they are for NERC applicants, ensuring that critical human geographers can only ever fail as the targets can *never* be attained. Failure to meet the targets results in heavier teaching loads and less time for writing and other kinds of research activity. The full professor of human geography who needs little or no funding is especially disadvantaged by this system. You can find yourself in a constant spiral of applying for money, whether you need it or not, to avoid being treated like a second-

class citizen, but then the grants received are not big enough to sufficiently offset the “research adjustment”. Getting a “small” grant is almost worse than getting no grant at all as it needs to be delivered on without sufficient time to do so. Some human geography colleagues in this context start to focus primarily on their teaching rather than their research or they even refuse to apply for promotion in order to avoid the research adjustment inflation that comes with promotion.

As Winkler (2014) noted above, rebranding also shapes hiring and recruitment decisions. A common feature in the neoliberal university is the idea of “strategic” hires in key areas that are more likely to attract external funding. I’ve noticed how strategic hiring is also accompanied by a narrowing understanding of interdisciplinarity. Not only does geography disappear from the names of schools and department, it also disappears from the names of lectureships. Lectureships in human geography are increasingly replaced by top-down driven hires on “hot topics” in the social sciences that are amenable to scientization. In an earlier period, these topics were climate change, urban sustainability and GIS, nowadays they tend to be energy futures, smart cities, big data, and hazards, risk and resilience. It is of course possible to hire critical human geographers for these positions, but the institutional aspiration in a geoscientized school is often to hire social scientists that can collaborate with physical scientists and this is what is meant and understood by “interdisciplinary” scholarship. Often it is a requirement of the position to do so. As one human geographer said to me, the drive for this narrowly defined “interdisciplinarity” is always about how the work of a social scientist can support or add value to a physical science research project, it is *never* about how physical science can add value to an ongoing research programme in human geography. It is sadly evident that for many geoscientists and the neoliberal managers of the faculties and colleges in which geography is located, interdisciplinarity has ceased to mean human geography in dialogue with debates elsewhere in the social sciences and humanities. The human

geographer who collaborates with a geophysicist is deemed to be doing interdisciplinary work, but the one who collaborates with a literary or film scholar is not. In conditions of geoscientific hegemony, the “diversity” of the school is repeatedly evoked as a key strength, but mirrors the superficial commitment to diversity in the university as a whole. Just as diversity initiatives in the neoliberal academy tend to gloss over racism rather than work to remove it (Ahmed 2012; Cupples 2018; van Milders 2018), discourses of diversity in a geoscientized unit conceal the work of geoscientific hegemony that narrows, homogenizes and erases.

So physical scientists rewrite the job descriptions that we have written in order to scientize them, they are often asked to sit on the interview panels for social science hires and they are often more attracted to candidates who might be open to collaboration with physical scientists. One area of potential collaboration between geoscientists and human geographers, and one with which I identify, is the field of hazards and disasters. When we hire in this area, we are required to seek the expertise of physical scientists. When they hire in this area, the expertise of human geographers is not sought. It is here where we can sometimes witness the mutual constitution of sexism and geoscientization. In one such hire, when I objected to the physical science dominance on a hiring committee, I was told that it was because whoever was hired would have to work with the “hard science part of the school”, evoking what Anderson (1995: 64) has referred to as “the gender-coded hierarchy of knowledge” and what Haraway (1988: 599) refers to as the “asymmetrical splittings” that emerge from gender/science binary oppositions. In a geoscientized unit, we are not very likely to get a “strategic” hire even in some of the most vibrant areas of contemporary human geography, if these areas are resistant to scientization. We can still hire scholars working in non-scientizable areas, but we have to wait for the increasingly rare lectureship in human geography to do so. What we see in “strategic” hires is a disconnect between what human

geography is at geography conferences and on the pages of geography journals and what geoscientists and managers think it is. We live in an environment characterized by what Viveiros de Castro (2004:7) referred to as “communicative disjuncture” which he defines as a situation “where the interlocutors are not talking about the same thing”. Of course, communicative disjuncture can be productive, as it provides us with an opportunity to engage in debates around epistemology and politically committed research that might disrupt Eurocentric thinking or pretensions of objectivity. But, as I’ve written elsewhere, attempts to bring scientific knowledges into dialogue with other kinds of knowledges can be met with hostility and rejection (see Cupples 2018: 8-9). And we are sometimes challenged to defend our theoretical scepticism towards positivist notions of objectivity, or are drawn into school-wide debates that have long since been put to bed by philosophers of science, not to speak of critical social scientists and humanists, regarding the scientific pursuit of objective truth.

As a result of geoscientization, critical human geography can be doubly damaged by neoliberal research audit mechanisms such as REF, PBRF and ERA⁵. While these top-down driven technologies tend to have intellectually impoverishing (as well as geographically varied) effects (Sidaway 1997; Castree et al. 2006; Smith 2010; Cupples and Pawson 2012), in conditions of geoscientific hegemony we find ourselves subject to the harms of these technologies and are then erased from the results. In the last REF submission, the School of GeoSciences at Edinburgh made a single submission to panel B7 “Earth Systems and Environmental Sciences” and not to panel C17 “Geography, Environmental Studies and Archaeology”. The publications authored by human geographers are cross-referred to panel B7, but the results only appear under Earth Systems and Environmental Sciences. We are then erased from the published results for geography. The next REF in 2020 will also involve a single submission to “Earth Systems and Environmental Sciences”, even though schools in the College of Arts, Humanities and Social Sciences make multiple submissions. The PBRF

in New Zealand has a clear advantage over the REF as individual researchers can choose their submission panel. New Zealand human geography does not however escape this subsequent erasure if the effect of geoscientization is to shrink the number of people who submit to the Human Geography panel, by hiring people who identify more closely with another field (such as earth sciences, computer science, and public health). In order to protect the confidentiality of individual scores, the Tertiary Education Commission does not provide data for subject areas with fewer than seven full-time equivalent (FTE) academic staff. So, the 2018 PBRF data for Human Geography only show scores for Massey, Auckland, Victoria and Otago. UC geography is now too small to appear in these results⁶. There is something deeply problematic about the institutional requirement to engage with such processes – not only producing publications that will attract good scores but especially engaging in the time-consuming activity of writing portfolios (PBRF) or environment statements (REF) - and then being erased from the public dissemination of those results.

Finally, as both Cohen (1988) and Lahiri-Dutt (2019) have written, it is also clear that the attacks on geography can be exacerbated as a result of the presence of certain personalities. The presence of science-trained deans, PVCs or heads of departments/schools who do not understand scholarship in the humanities or social sciences or are biased against it can accelerate the negative consequences of geoscientization, bring about long-term retention crises, and engender serious reputational damage. By the same token, it is clear then the negative effects of geoscientization can also be mitigated by heads and managers who work to protect or advocate for critical human geography.

There appears to be some evidence that human geography does better if it is located in faculties or colleges of humanities and social sciences. One human geographer told me that remaining administratively in social sciences had enabled feminist and indigenous geographies to flourish. There is also no doubt that the strongest geography departments in

the UK and the US (Oxford, Cambridge, Durham, University College London, Minnesota, Berkeley, Ohio State) are those that remain standalone departments. In some Australian universities, including Macquarie, Monash and Wollongong, the negative consequences of geoscientization for human geography have been recognized, and administrators have responded by putting human geography back into faculties of humanities and social sciences, although they have usually done so by splitting the discipline and leaving physical geography elsewhere (see Finlayson 2015). In 2017, St Andrews University in Scotland also halted the process of geoscientization by dismantling the School of Geography and Geosciences and creating two new schools that operate independently from one another, namely the School of Earth and Environmental Sciences and the School of Geography and Sustainable Development. These administrative changes that seek to rectify mistakes made are significant for those of us who work in geoscientized structures.

Resisting and living with geoscientization

The consequences of geoscientization discussed here make it important to fight to retain standalone geography departments, or to fight for mergers with programmes with which human geographers have shared intellectual approaches⁷. There is nothing inevitable about the co-location of geography and geology, geography's breadth means there are potential synergies with many other university programmes. We also need to fight for the name "geography" to remain (or be reinserted) in the school name and for visibility in institutional and bureaucratic processes of research audit (while seeking simultaneously to get these dismantled). We also need to insist on promotion procedures, hiring practices, funding targets and workload model tariffs that do not discriminate against critical human geographers. Existing institutional frameworks around equity and diversity and stated emphases on well-being at work can perhaps be harnessed to do so. The decolonizing

pressures on our universities that have been led largely by indigenous and BAME students and staff are also a key resource that can be mobilized to resist further geoscientization and what Boaventura de Sousa Santos (2014: 105) has called “epistemological monopolization”. As de Sousa Santos (2014: 42) makes clear, there is something deeply colonial about the “a prior supremacy” accorded to scientific knowledge and the non-admission of other kinds of knowledges. As the planet burns and sea levels rise, marine life chokes on plastic, the scandalously superrich get even richer, femicide worsens, environmental defenders are criminalized and murdered, and migrants routinely drown in the Mediterranean, scholarship that is distanced from politics becomes increasingly harder to justify. For example, analyses of climate change or disasters divorced from analyses of patriarchal racial capitalism and from the politics of meaning are not going to get us very far in the current conjuncture. The *modus operandi* of the westernized university reflected in monocultural Eurocentric scientific rationality embedded in neoliberal regimes of power is no longer fit for purpose. This is *not* an anti-science position but is about putting non-scientific knowledges on an equal footing with scientific ones in order to address “the cognitive injustice committed against the wisdom of the world on behalf of the monopoly of science” (de Sousa Santos 2014: 15). Some physical scientists recognize these realities and they are our potential friends and allies in the defense of critical human geographic scholarship.

So geoscientization can and should be resisted. However, as a hegemonic system, geoscientization is contingent and its contingency is something that facilitates counterhegemonic struggles. To some extent, we find that geoscientization is tempered by our students. At Edinburgh, our undergraduate and PhD students are drawn to critical, qualitative and politically committed scholarship, and, as Cresswell (2014) notes, not many doctoral students want or need to do quantitative work despite Research Council and institutional insistence on the teaching of quantitative methods. While human geography

continues to be a site for instrumental and positivist work, one of its unique features - that distinguishes it from other social sciences such as sociology and political science - is that the critical part of the discipline is the largest part (Callard 2018). The rise of the geohumanities and its important theoretical contributions to our discipline is also an important site of discursive defence. This significance can't be overlooked even in geoscientized units and at UoE we have been able to hire scholars who explicitly identify with the geohumanities. Furthermore, at Edinburgh at least, we continue to enjoy substantial academic freedom in the classroom and our classes are sites where feminist, decolonial, postcolonial and critical political economy perspectives can be emphasized.

While resistance is necessary, the prevailing power of geoscientization makes it necessary to also try to learn to live with it as an act of self-care. All counterhegemonic struggles must form a relationship with the hegemonic systems that seek to keep them subordinated, so ignoring geoscientization is not a political possibility and it has shaped my academic subjectivity and the way in which I exist in the neoliberal university in a range of ways. I've built and learned to appreciate the value of a small intellectual community of collaborators both within the school and in other schools that keeps me sane. But I have also started to collaborate with a (particularly exceptional) volcanologist on a project focused on the eruption of the Fuego Volcano in Guatemala and am interested to see where it might take us. As Donovan, Sidaway and Stewart (2011) write, successful collaborations across the divide between human and physical geography and geology/geoscience can only be achieved by a set of "enabling conditions" that include most importantly deep commitment from those involved. In other words, collaborations cannot be coerced and do *not* result from forced top-down mergers and co-locations.

Conclusion

To summarize, geoscientization is a contingent arrangement but one that gets reified through the repetition of certain narratives and the imposition of institutional practices and policies. Geoscientization, neoliberalization and sexism work together and often form a toxic combination. As a result, many human geographers find ourselves working in conditions of neoliberal geoscientific hegemony that have a largely negative set of consequences for critical knowledge production, for interdisciplinary scholarship within the humanities and social sciences, and for well-being at work. Addressing these negative consequences involves doing what I have sought to do here, namely drawing attention to the ways in which geosciences is legitimated through various and often quite gendered forms of exclusion and hierarchization. I realize that this is difficult and polemical territory. I know from my own experience that seeking to recognize and discuss the effects of geoscientization often leads to denial and dismissal and to being labelled a troublemaker at work. This is because those who benefit from geoscientific hegemony, will not, as de Sousa Santos (2014: 105) writes, “readily accept their utility becoming the object of assessment.” As Ahmed (2017: 37) similarly put it with reference to institutional racism and sexism “when you expose a problem, you pose a problem”. Drawing on Graeber (2015: 80), we can see that the response to our attempts to raise the question of geoscientization is actually a form of bureaucratic violence, as it results in “attacks on those who insist on alternative schemas of interpretation”, when we challenge the right of geoscientists and neoliberal managers “to define the situation”. Consequently, we need to tell our colleagues and university managers that there is a hegemonic system and that it is one that causes harm. We also need to bring the question of geoscientization more centrally into the scholarly debates about our discipline, asserting our right to analyse our working conditions. It means in a way adapting for our own purposes what Enrique Dussel (2012: 44) calls the “negation of the negation” in which we just keep on teaching and researching in the humanities and critical social sciences and

working with the people with whom we share political and theoretical affinities. Enacting a politics of refusal - by repeating that we are geographers and not geoscientists - is disruptive of the geoscientific hubris and epistemological monopolization that seek to erase and marginalize. Such a stance can then result in a politics of affirmation and liberation for the kind of work that we do but that does not fit within dominant geoscientific narratives.

Acknowledgements

I would like to thank Kevin Glynn, Jan Penrose, James Sidaway, Tom Slater and Jon Swords for suggestions and comments on earlier drafts of this paper and the many geographers in the UK, New Zealand and Australia who have shared their views on this topic with me. I do however assume full responsibility for the contents of this article.

References

- Ahmed S (2012) *On Being Included*. Durham: Duke University Press.
- Ahmed S (2017) *Living a Feminist Life*. Durham: Duke University Press.
- Anderson A (1995) Feminist epistemology: An interpretation and a defense. *Hypatia* 10(3): 50-84.
- Berg L, Huijbens E and Larson H G (2016) Producing anxiety in the neoliberal university. *The Canadian Geographer / Le Geographe canadien* 60(2): 168-180.
- Blunt A (2008) Geography and the humanities tradition. In N Clifford, S Holloway, S P Rice and G Valentine (eds) *Key Concepts in Geography*, 2nd edition. London: Sage, pp. 66-81.
- Callard F (2018) 2018: The year that shook universities. Wreford Watson lecture, University of Edinburgh, 29 November.
- Castree N, Aspinall R, Berg LD, Bohle H-G, Hoggart K, Kitchin R, Kleine D, Kulke E, Munton R, Pawson E, Powell J, Sheppard E, van Weesep J (2006) Research assessment

- and the production of geographical knowledge. *Progress in Human Geography* 30(6): 747–82.
- Chan W F (2011) Mourning geography: A punctum, Strathclyde and the death of a subject. *Scottish Geographical Journal* 127(4): 255-266.
- Cohen S (1988) Reflections on the elimination of geography at Harvard, 1947–51. *Annals of the Association of American Geographers* 78(1): 148-151.
- Cresswell T (2013) *Geographic Thought: A Critical Introduction*. Malden: Wiley-Blackwell.
- Cresswell T (2014) Déjà vu all over again: Spatial science, quantitative revolutions and the culture of numbers. *Dialogues in Human Geography* 4(1): 54-58.
- Cupples J (2018) Introduction: Coloniality interrupted, coloniality resurgent. In J Cupples and R Grosfoguel (eds) *Unsettling Eurocentrism in the Westernized University*. London: Routledge, pp.1-22.
- Cupples J and Glynn K (2017) Cultural studies. In Richardson D, Castree N, Goodchild M F, Kobayashi A, Liu W and Marston R (ed) *The Wiley-AAG International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. Malden: Wiley-Blackwell.
- Cupples J and Pawson E (2012) Giving an account of oneself: The PBRF and the neoliberal university. *New Zealand Geographer* 68(1): 14–23.
- De Sousa Santos B (2014) *Epistemologies of the South: Justice against Epistemicide*. Boulder: Paradigm Publishers.
- Domosh M and Bondi L (2014) Remembering the making of Gender, Place and Culture. *Gender, Place and Culture* 21: 1063–70.
- Donovan K, Sidaway J D and Stewart I (2011) Bridging the geo-divide: Reflections on an interdisciplinary (ESRC/NERC) studentship. *Transactions of the Institute of British Geographers* 36: 9-14.

- Dussel E (2012) Transmodernity and interculturality: An interpretation from the perspective of philosophy of liberation. *Transmodernity* Spring:28-59.
- Fincher R (2012) Postgraduate educational practice in Australian geography: Change and stasis. *Journal of Geography in Higher Education* 36(1):29–34.
- Finlayson B (2015) Whither (or wither?) geography? *Geographical Research* 53(2):119–120.
- Gibson C (2007) Geography in Higher Education in Australia. *Journal of Geography in Higher Education* 31(1): 97-119.
- Graeber D (2015) *The Utopia of Rules: On Technology, Stupidity, and the Secret Joys of Bureaucracy*. New York: Melville House.
- Grosfoguel R (2013) The structure of knowledge in westernized universities: Epistemic racism/sexism and the four genocides/epistemicides of the long 16th century. *Human Architecture: Journal of the Sociology of Self-Knowledge* 11(1): 73-90.
- Hall S (1990) The emergence of cultural studies and the crisis of the humanities. *October* 53: 11-23.
- Hall T, Toms P, McGuinness M, Parker C and Roberts N (2015) Where's the Geography department? The changing administrative place of Geography in UK higher education. *Area* 47(1): 56-64.
- Haraway D (1988) Situated knowledges: The science question in feminism and the privilege of partial perspective. *Feminist Studies* 14(3): 575-599.
- Harvey N, Forster C and Bourman R P (2002) Geography and environmental studies in Australia: Symbiosis for survival in the 21st century? *Australian Geographical Studies* 40(1): 21-32.
- Hendrikse R (2018) Neo-illiberalism. *Geoforum* 95: 169-172.
- Ingold T (2011) *Being Alive: Essays on Movement, Knowledge and Description*. London: Routledge.

- Johnston J, Sears C and Wilcox L (2012) Neoliberalism unshaken: A report from the disaster zone. *Excursions* 3(1): 2-26.
- Johnston R (2008) Geography and the social science tradition. In N Clifford, S Holloway, S P Rice and G Valentine (eds) *Key Concepts in Geography*, 2nd edition. London: Sage, pp. 46-65.
- Johnston R and Sidaway J D (2015) *Geography and Geographers: Anglo-American Human Geography*. Abingdon: Routledge.
- Kuokkanen R (2007) Reshaping the University: Responsibility, Indigenous Epistemes, and the Logic of the Gift. Vancouver: University of British Columbia Press.
- Lahiri-Dutt K (2019) “Academic War” over geography? Death of human geography at the Australian National University. *Antipode* 51(3):858-877.
- Lave R, Wilson M W, Barron E S, Biermann C, Carey M A, Duvall C S, Johnson L, Lane K M, McClintok N, Munroe D, Pain R, Proctor J, Rhoads B L, Robertson M M, Rossi J, Sayre N F, Simon G, Tadaki M and van Dyke C (2013) Intervention: Critical physical geography. *The Canadian Geographer / Le Geographe canadien* 51(1): 1-10.
- Maddrell A, Strauss K, Thomas N J and Wyse S (2015) Mind the gap: Gender disparities still to be addressed in UK Higher Education geography. *Area* 48(1): 48-56.
- Matthews P (2012) Corporate culture choking the creative. *The Press* 5 May C4-5.
- Mayer W, Clary R M, Azuela L F, Mota T S and Wołkiewicz S (eds) (2017) *History of Geoscience: Celebrating 50 Years of INHIGEO*. London: Geological Society of London.
- Parr C (2014) Imperial College professor ‘was given grant income target.’ *Times Higher Education* 3 December <https://www.timeshighereducation.com/news/imperial-college-professor-stefan-grimm-was-given-grant-income-target/2017369.article> (Accessed 29 June 2019).

- Richards K (2008) Geography and the physical sciences tradition. In N Clifford, S Holloway, S P Rice and G Valentine (eds) *Key Concepts in Geography*, 2nd edition. London: Sage, pp. 21-45.
- Sidaway J (1997) The production of British geography. *Transactions of the Institute of British Geographers* 22: 488–504.
- Sidaway J D and Johnston R J (2007) Geography in Higher Education in the UK. *Journal of Geography in Higher Education* 31(1): 57-80.
- Smith N (1987) Academic war over the field of geography: The elimination of geography at Harvard, 1947-1951. *Annals of the Association of American Geographers* 77(2):155-172.
- Smith N (2010). *Academic free fall*. *Periscope* 21 August. Available from: https://socialtextjournal.org/periscope_article/academic_free_fall/ (Last accessed 25 May 2019).
- Sullivan R (2011) *Geography Speaks: Performative Aspects of Geography*. Farnham: Ashgate.
- Times Higher Education (2018) UK research grant success rate declines in return to long-term trend. *Times Higher Education* 15 November, pp.6-7.
- Tuhiwai Smith L (2012) *Decolonizing Methodologies: Research and Indigenous Peoples*, 2nd ed. London: Zed Books.
- Van Milders L (2018) The white university: A platform of subjectification/subjugation. In J Cupples and R Grosfoguel (eds) *Unsettling Eurocentrism in the Westernized University*. London: Routledge, pp.42-55.
- Viveiros de Castro E (2004) Perspectival anthropology and the method of controlled equivocation. *Tipiti: Journal of the Society for the Anthropology of Lowland South America* 22(1): 3-22.

Wainwright E, Barker J, Ansell N, Buckingham S, Hemming P and Smith F (2014)

Geographers out of place: institutions, (inter)disciplinarity and identity. *Area* 46: 410–17.

Winkler J (2014) What's in a name? The renaming and rebranding of geography

departments. *AAG Newsletter* 29 April <http://news.aag.org/2014/04/whats-in-a-name-the-renaming-and-rebranding-of-geography-departments/> (Accessed 14 May 2019).

¹ <https://www.americangeosciences.org/critical-issues/faq/what-is-geoscience>

² My focus here is on the impacts of geoscientization on critical human geography. I am not suggesting that geoscientization is beneficial for physical geography and I invite physical geographers to also share their experiences of geoscientization.

³ What one anonymous reviewer helpfully referred to as social policization.

⁴ Geohumanities is now as much as reified entity as geosciences and has been very influential within geography networks, most notably the AAG, who now publishes the journal *Geohumanities*.

⁵ Research Excellence Framework (UK), Performance Based Research Funding (New Zealand), Excellence in Research for Australia.

⁶ See <https://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/performance-based-research-fund/pbrf-2018-quality-evaluation-interim-results/quality-evaluation-results-by-teo-and-subject>

⁷ Karlstad University in Sweden has a Department of Geography, Media and Communication that was suggested by the geographers and media and communication scholars at this university who were already working together. A bottom-up merger that works replaced the top-down one proposed by university managers.